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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,860	04/16/2007	Shigeki Machida	2006_1242A	9752

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EXAMINER	
ALLEN, MARIANNE P	

ART UNIT	PAPER NUMBER
1647	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,860	MACHIDA ET AL.	
	Examiner	Art Unit	
	Marianne P. Allen	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's arguments filed 3/20/09 have been fully considered but they are not persuasive.

Claims 7-12 have been newly introduced.

The rejection of claims 4-6 under 35 U.S.C. 102(a) as being anticipated by Machida et al. (November 2004) is withdrawn in view of the submission of the certified translation of the priority document.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

Claims 4-6 have been amended to recite "decreasing." No basis for this term has been pointed to and none is apparent. The term does not appear to be used by the specification and it is not known what effect must be achieved to meet this limitation. For example, while the specification discloses that HGF protects certain structures when administered before damage

occurs, the specification does not disclose that HGF can reverse damage that has already occurred.

Claims 4-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification exemplifies administering HGF to mice. HGF was administered intravitreously prior to retinal damage. The outer retinal layer is disclosed as being protected. Example 2 administers HGF to RCS mice (an animal model for hereditary photoreceptor degeneration).

The particular HGF used is not disclosed. It is not known what species of HGF or whether a full length HGF was used. While the specification notes that HGF is a known protein, the specification makes clear that the claims encompass administration of variants and modified forms. The term "HGF" cannot be considered to refer only to the naturally occurring protein. See at least pages 6-7 of the specification. The specification fails to identify those portions of HGF responsible for preventing or treating retinopathy, particularly resulting from damage and/or degeneration of the outer retinal layers, macular degeneration, or retinitis pigmentosa. As such, one of ordinary skill in the art would not have been able to predict those HGF proteins that would have been expected to be operable in the methods of claims 4-12.

Applicant's arguments are unpersuasive. The claims are not limited to "HGFs that have substantially the same activity as that of natural HGF." Furthermore, it is not clear what the

metes and bounds of "substantially the same activity as that of natural HGF" are. It is not clear what constitutes "natural HGF." Applicant's response does not identify the particular HGF used in the examples of the specification.

In *In re Wands* (8 USPQ2d 1400 (CAFC 1988)) the CAFC considered the issue of enablement in molecular biology. The CAFC summarized eight factors to be considered in a determination of "undue experimentation." These factors include: (a) the quantity of experimentation necessary; (b) the amount of direction or guidance presented; (c) the presence or absence of working examples; (d) the nature of the invention; (e) the state of the prior art; (f) the relative skill of those in the art; (g) the predictability of the art; and (h) the breadth of the claims. The present claims are considered to be an invitation to experiment. There is little direction or guidance in the specification. There is a single example that does not disclose the structure of the HGF protein used, the prior art was not aware of the ability of HGF to prevent retinopathy or to protect the outer retinal layers, the portions of HGF required for this activity are not disclosed, and the breadth of the claims is large.

The specification exemplifies only intravitreal injection. The specification and prior art of record do not demonstrate that methods of administration other than intravitreal injection would have been suitable or routinely used for administration of HGF to treat retinopathy. For example, the prior art of record does not establish that oral, intranasal, intramuscular, transdermal, or rectal administration would have been routinely used by those of ordinary skill in the art at the time of the invention or expected to be effective. Note that claims 4-6 embrace any form of administration.

Page 1 of the specification discloses that the outer retinal layers include Bruch's membrane, retinal pigment epithelial (RPE) cell layer, photoreceptor layer, outer limiting membrane, outer nuclear layer, and outer plexiform layer from the choroid side, and no blood vessel passes through this region.

Applicant's arguments are unpersuasive. The paragraphs pointed to on pages 7-8 disclose possible means of administration. This generic disclosure does not address how parenteral administration, eye drops, eye ointments, or injections (which include intramuscular, intravenous, subcutaneous administration) will deliver HGF to the appropriate location, namely the outer retinal layers. Again, no blood vessel passes through this region. Only intravitreal injection is enabled by the specification and no claim is directed to this embodiment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-6, 8-9, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Shibuki et al. (2002).

Shibuki et al. discloses intravitreal injection of recombinant human HGF to protect against retinopathy. Use of HGF in treating retinitis pigmentosa is specifically disclosed. See at least abstract, page 535, and Figure 5.

Applicant's arguments are unpersuasive. Shibuki et al. discloses the steps required by the claims. There are no limitations to damage and/or degeneration of the outer retinal layers in these claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne P. Allen whose telephone number is (571)272-0712. The examiner can normally be reached on Monday-Friday, 5:30 am - 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Manjunath N. Rao can be reached on 571-272-0939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marianne P. Allen/
Primary Examiner, Art Unit 1647

mpa